Meeting the Transportation Challenges of the New Millennium: Full Speed Ahead!

Thomas J. Gross
Deputy Assistant Secretary
Office of Transportation Technologies
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Clean Cities

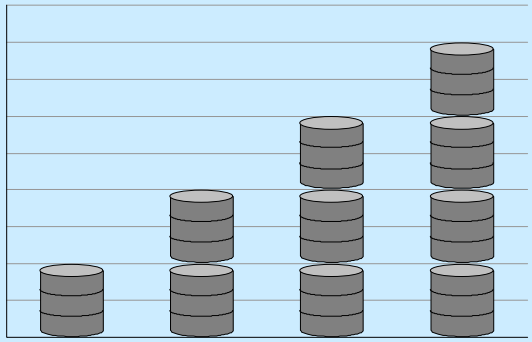
The Fifth National
Clean Cities Conference
May 25, 1999

Overview

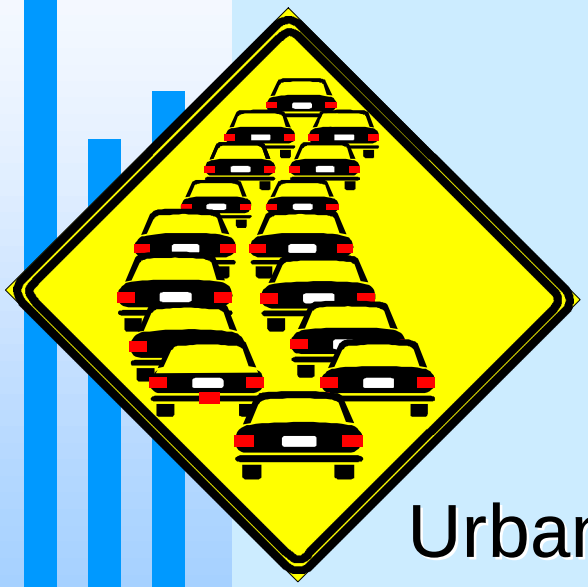
- We Face Global Challenges
- Building the Ark
- Clean Cities at the Helm

Clean Cities

The Challenges Facing Us...



Growing
Petroleum
Consumption

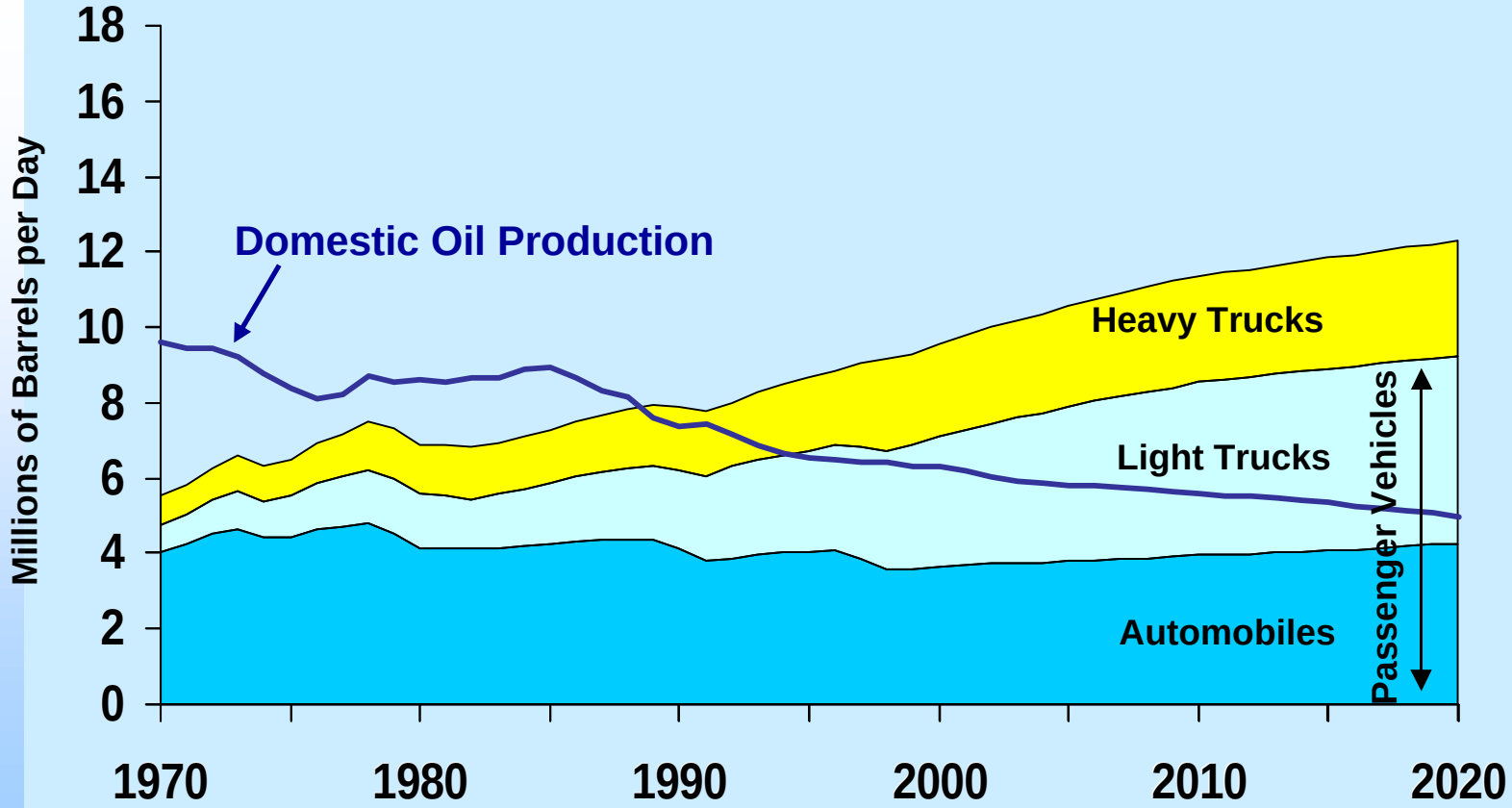


Urban
Pollution

Global
Climate
Change

Clean Cities

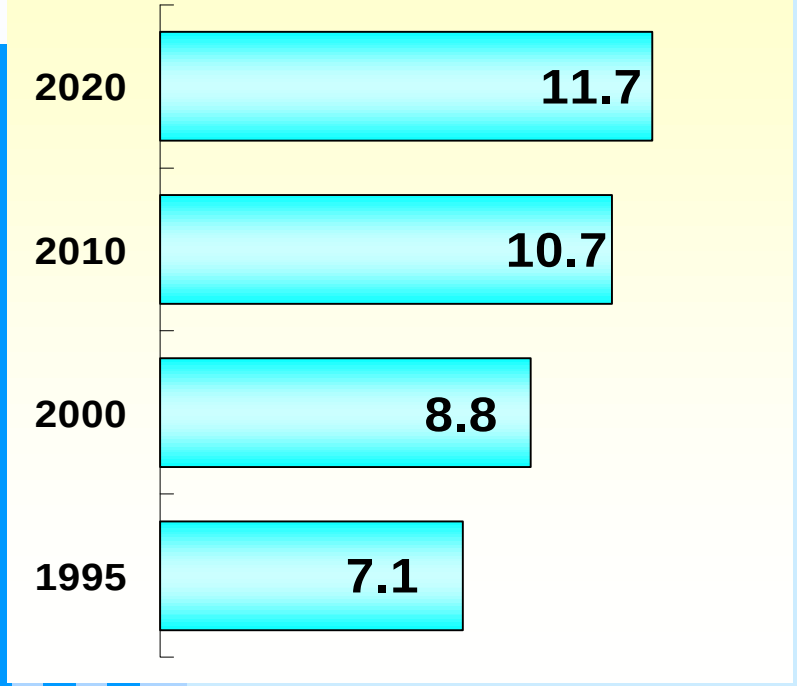
U.S. Highway Transportation Uses More Oil Than Is Produced Domestically

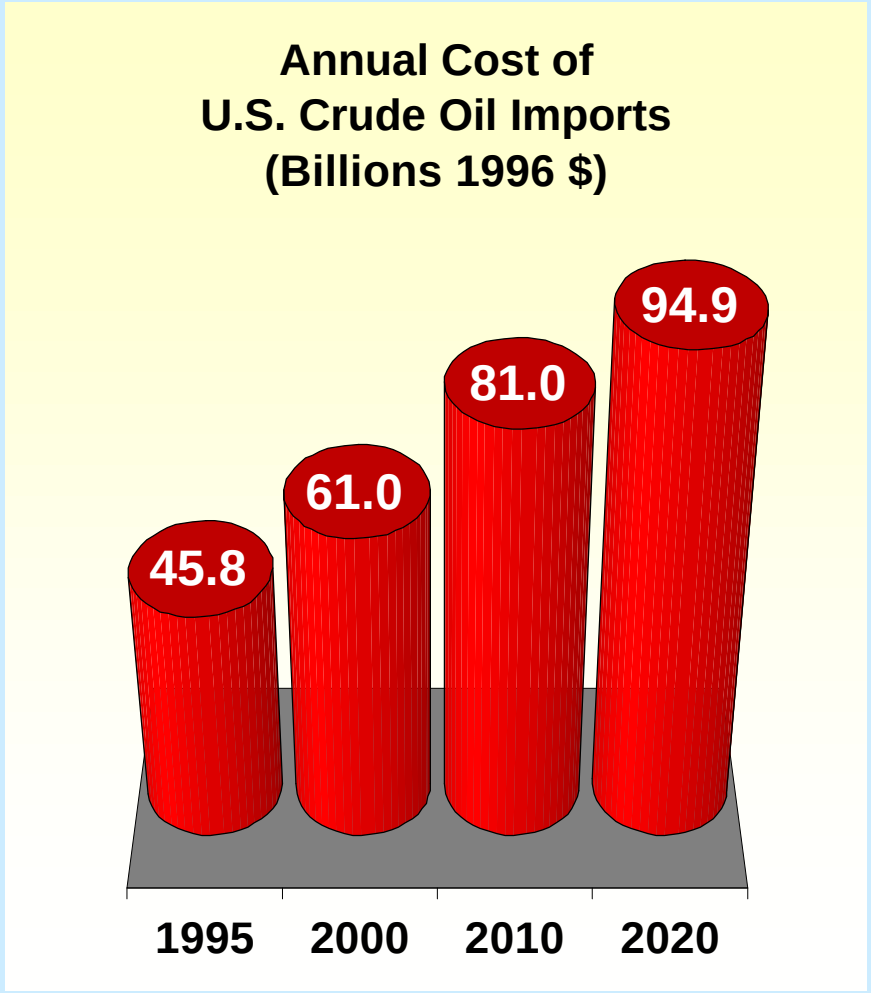


Source: Transportation Energy Data Book: Edition 18, DOE/ORNL-6941, September 1998, and EIA Annual Energy Outlook 1999, DOE/EIA-0383(99), December 1998

Clean Cities

Economics of Oil





Clean Cities

Projections from 1999 Annual Energy Outlook

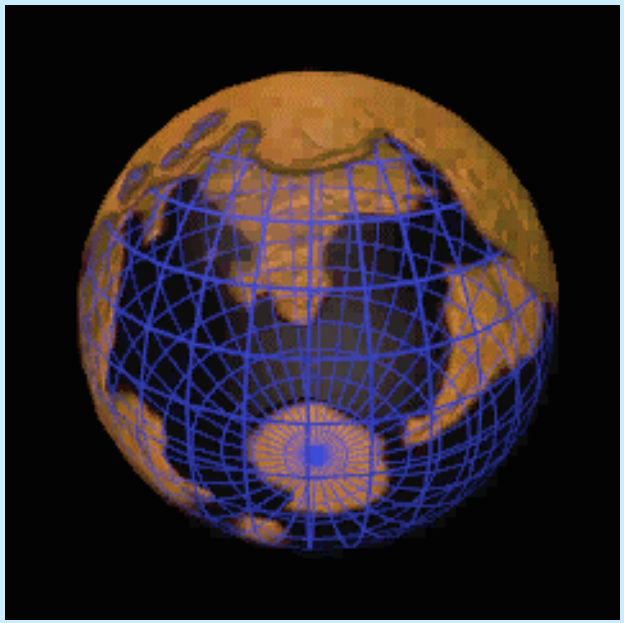
Clean Cities in Non-attainment Areas

Clean Cities

U.S. Transportation and Global Warming

Kyoto Agreement
(December 1997)

Agreement to reduce greenhouse emissions to 7% below 1990 levels by 2008-2012



In the US, the transportation sector accounts for 1/3 of CO_2 emissions and is the fastest growing contributor

Clean Cities

Fuel Economy is Low on Consumers List of Priorities

[gasoline] selling for as little as $1.10 per gallon, most motorists could care less about fuel economy

December 21, 1998

The Detroit News

Government wants fuel-thrifty cars, but buyers don't

By Kenneth Cole / *Detroit News Washington Bureau*

Cheap gasoline prices make the challenge of designing fuel efficient cars all the more difficult.With premium octanes selling for as little as $1.10 per gallon, most motorists could care less about fuel economy.

Sales data affirm as much.

Of the 14.1 million 1998 model cars and light trucks sold in the United States through Aug. 31, only 159,209 — 1.1 percent — were models that ranked in the top 10 in their respective classes in fuel economy, according to the Environmental Protection Agency. Similarly, only 105 of the 15,039 motorists who participated in a 1998 survey by AutoPacific Inc. — a paltry 0.7 percent — said protecting the environment factored into their auto-purchase decisions.

Car companies say government should raise gas prices and offer motorists tax breaks for buying such clean machines to shore up the market for them.

Indeed, automakers have become increasingly vocal on such matters.

One reason for their seeming sense of urgency to bring greener vehicles to the market: The specter of tougher government regulations.

"Clearly, unfolding science and medical studies support stronger regulations for air pollution and global warming, and they're coming down the pike," said John Passacantando, executive director of Ozone Action, an environmental watchdog agency in Washington. "If automakers are smart, they'll try to get ahead of the curve because it's got to be costly always playing catch up."

Evidence to support his prediction of future rules abounds:

- Just last month, California clean-air regulators ruled that light trucks must match car-emissions levels by 2004. The feds are now weighing such a rule.
- Environmentalists recently renewed calls for the Senate to commit the United States to the worldwide global-warming treaty drafted last December in Kyoto, Japan. The pact seeks to curb man-made greenhouse gas emissions.
- The EPA — prohibited from introducing more stringent emissions rules until 2004 — is expected to unveil its would-be standard in late January. It almost certainly will demand steep cuts in greenhouse gases and pollution.

Competition also calls for greener cars.

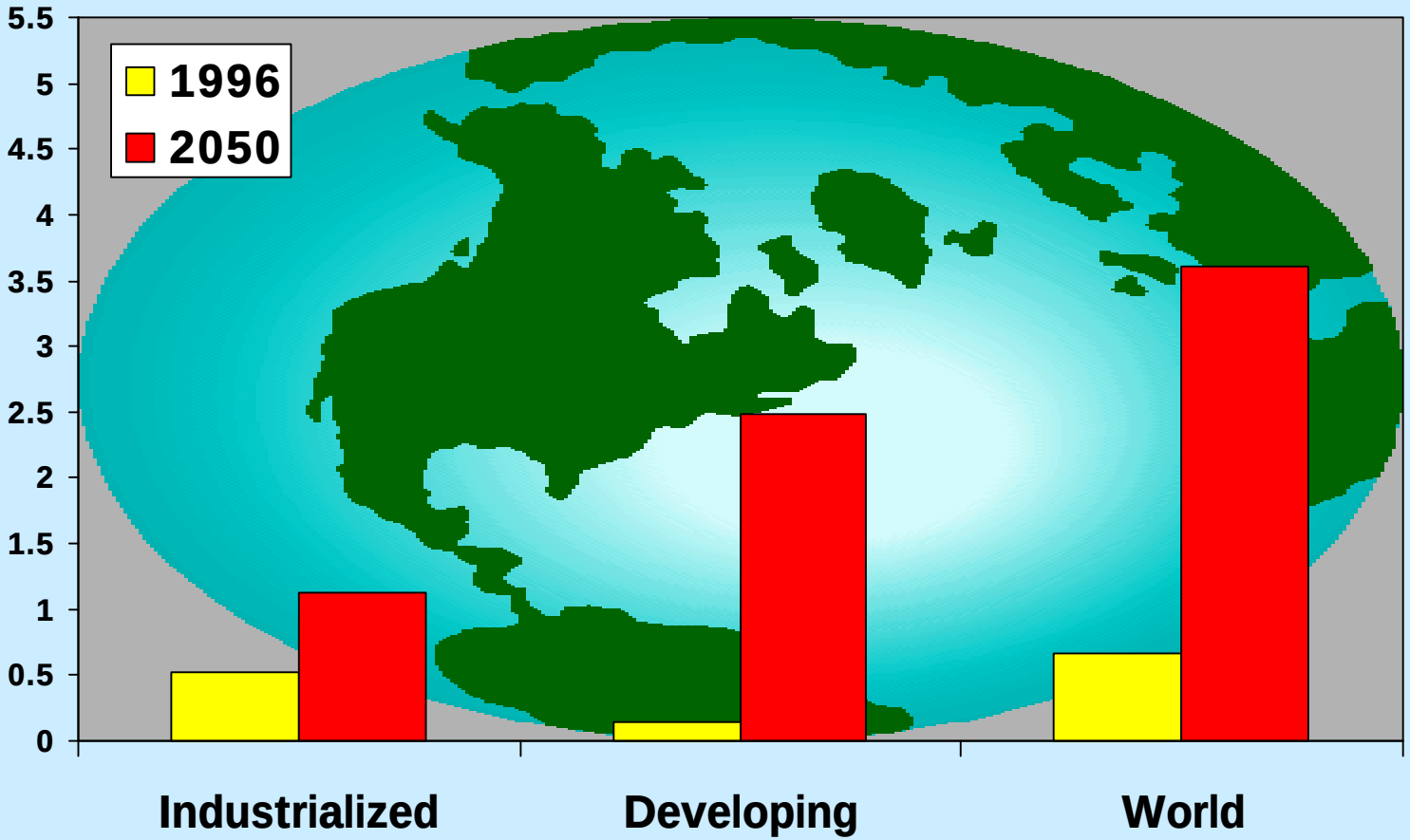
"There's a competitive imperative to be responsive to environmental concerns," said Ford Chairman-elect William Clay Ford Jr. in a speech to the Society of Automotive Engineers in Detroit. "Woe be it to the company that ignores them."

According to EPA

. . . Only 159,209 – 1.1 percent – [of 14.1 million vehicles sold within the first 8 months of 1998] ranked in the top 10 in their respective classes in fuel economy

Clean Cities

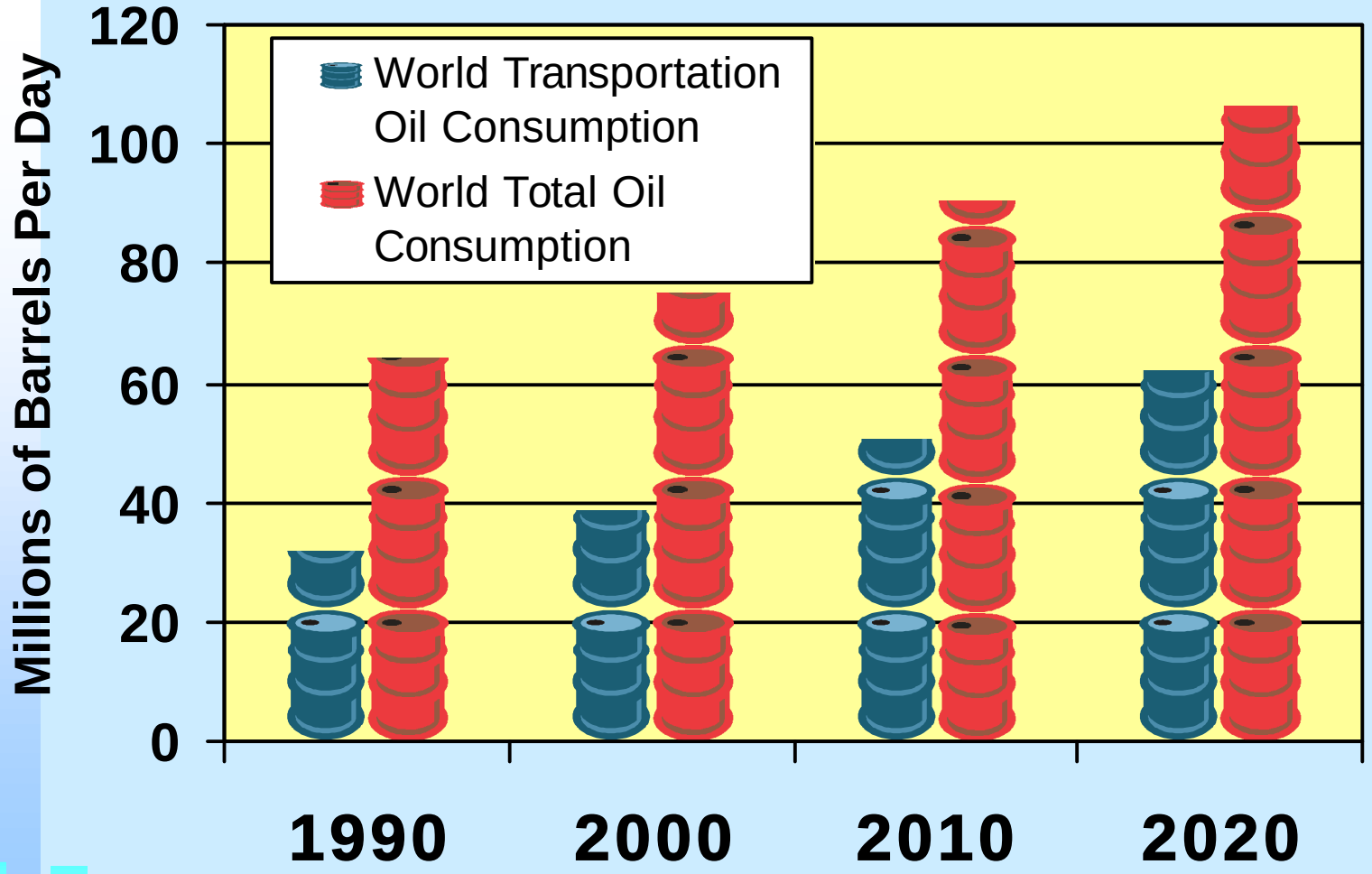
World Vehicle Registrations



Source: OTT Analytic Team

Clean Cities

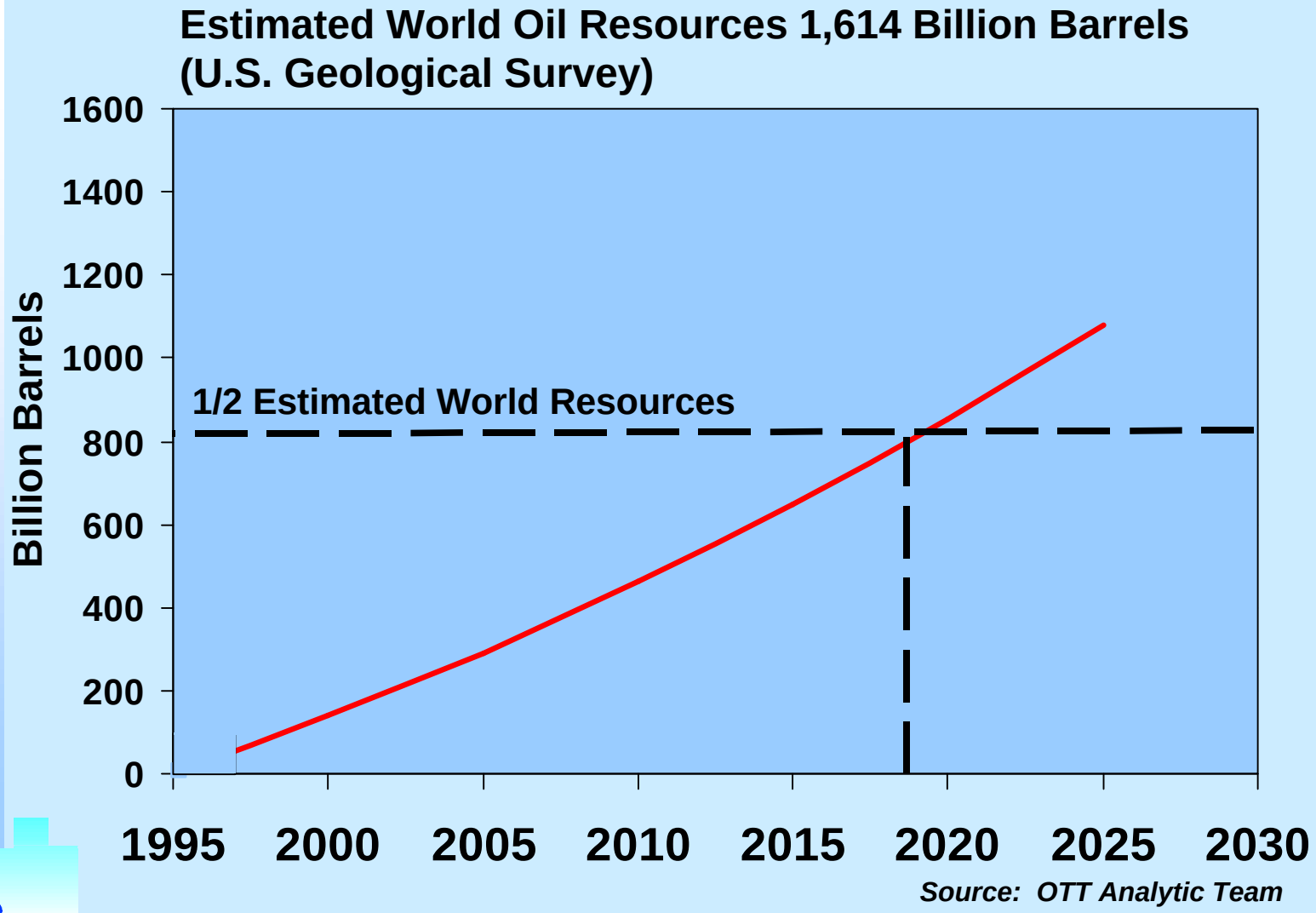
Increasing World Oil Consumption



Source: International Energy Outlook 1999

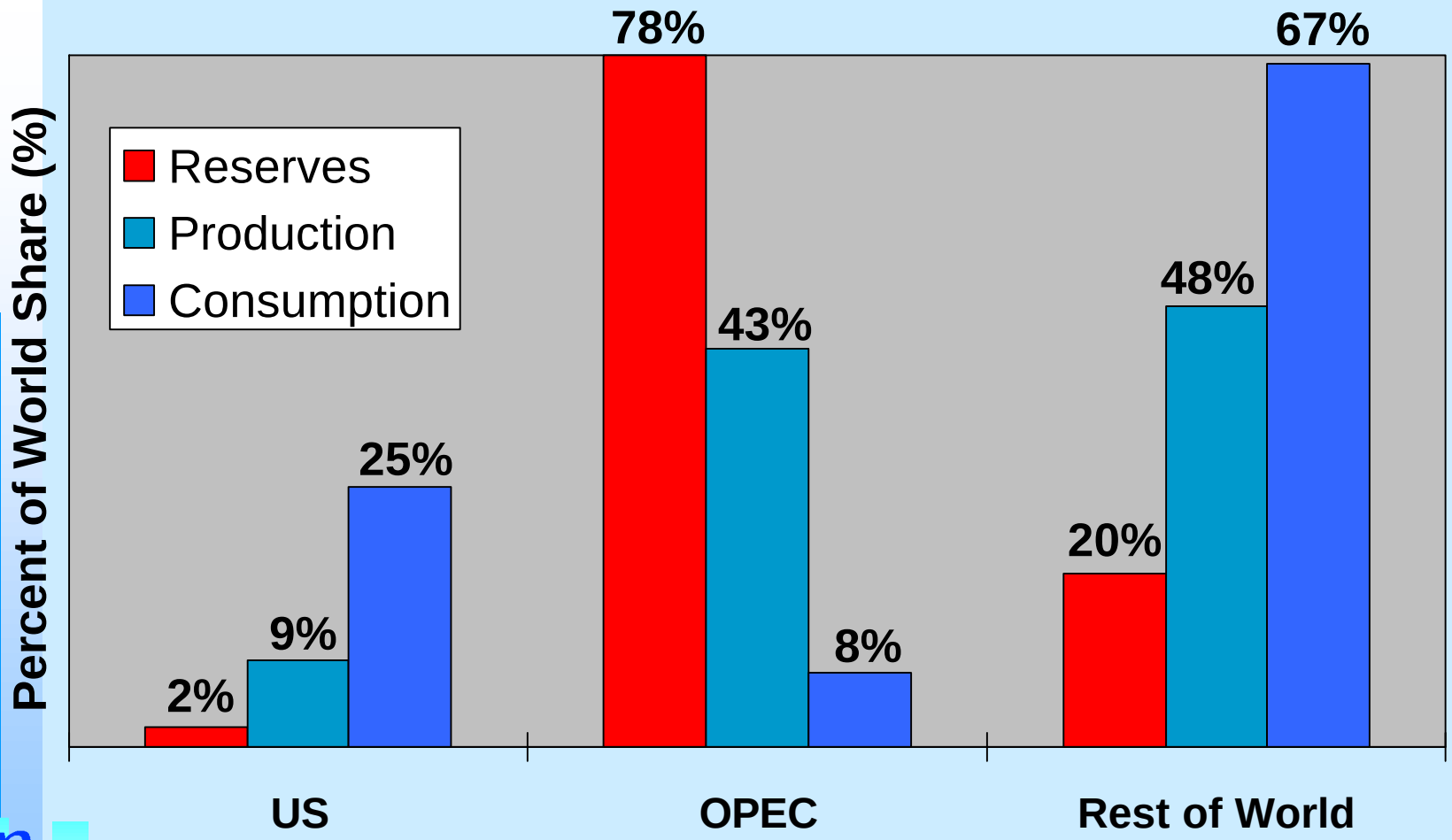
Clean Cities

Depletion of World Oil Resources



Clean Cities

World Oil Reserves are Consolidating in OPEC Nations

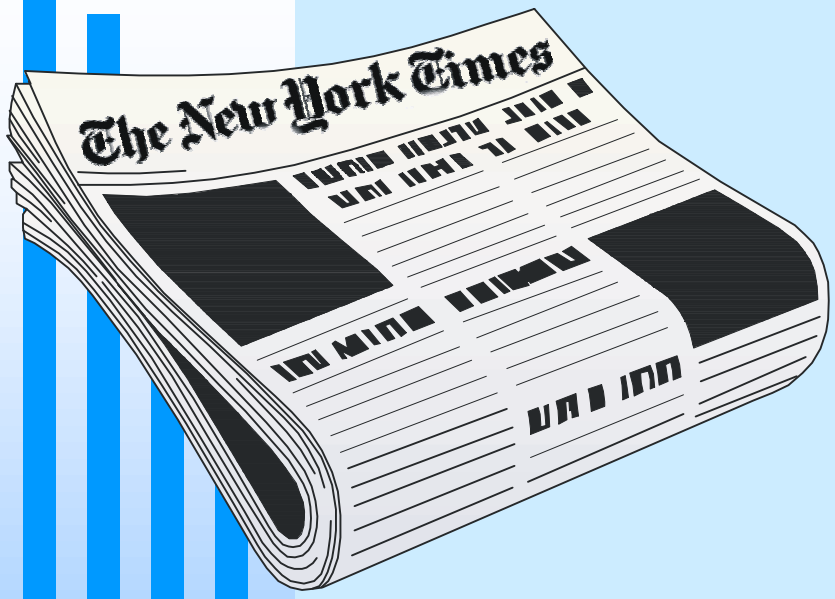


Source: DOE/EIA, International Petroleum Statistics Reports, April 1999; DOE/EIA, International Energy Annual 1997, DOE/EIA0219(97), February 1999.

Clean Cities

Oil Producer Clout

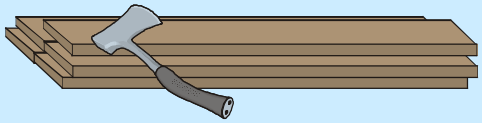
New York Times
May 5, 1999

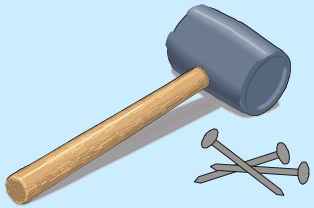


Announced cut-backs in production by a coalition of OPEC and non-OPEC members has driven oil prices up from a low of $10.35 per barrel in December 1998 to $18.92 per barrel in May 1999

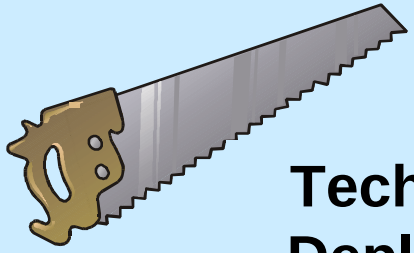
Clean Cities

Technology Development

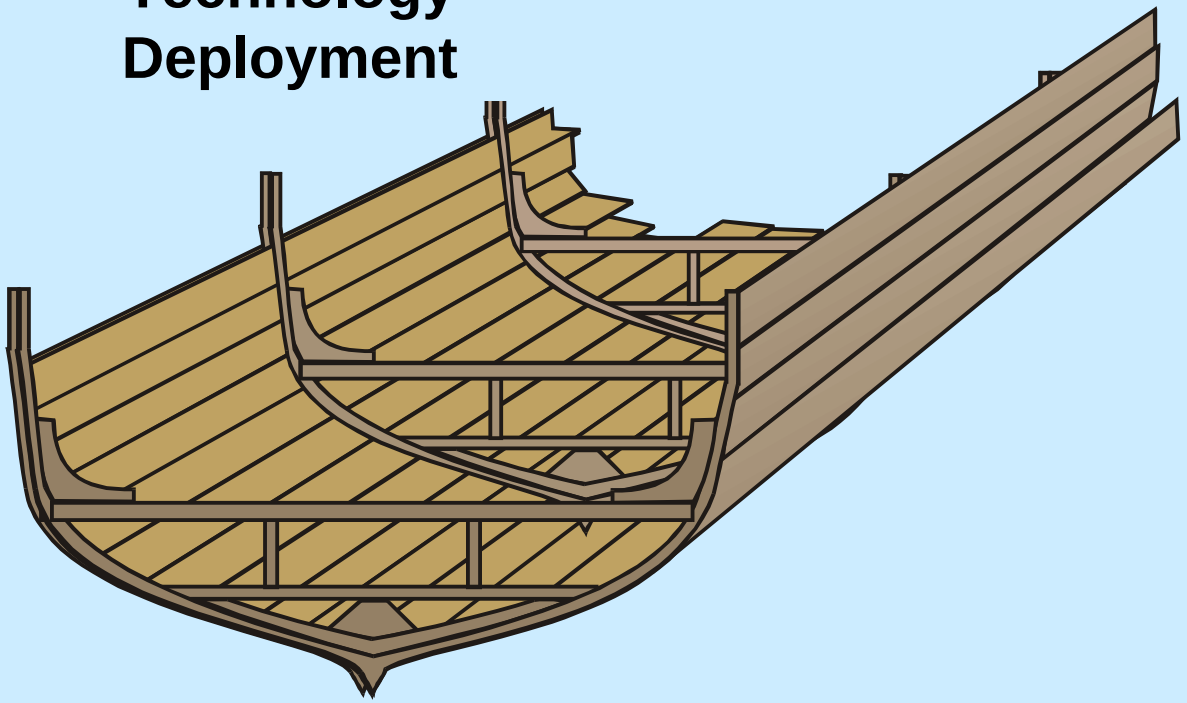




Fuels Development



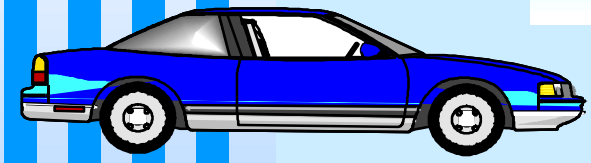
Technology Deployment



Clean Cities

Partnerships are Key to Success ...

Clean Cities

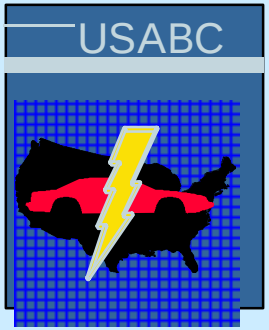


US AMP

Advanced Clean Diesel Engine

PNGV
PARTNERSHIP FOR A NEW GENERATION OF VEHICLES

USABC



National Fuel Cell Alliance

Clean Cities

Clean Cities – Atlanta Region

Clean Cities Atlanta

Partnerships have led to alternative fuel projects totaling over $150 million

- Centennial Olympic Park: support vehicles entirely electric
- Checker Cab: 70 dedicated CNG Ford Crown Victorias (largest CNG taxi fleet in country)
- Metropolitan Atlanta Regional Transport Authority (MARTA): 118 operating CNG buses with 206 on order. Over half of bus fleet is powered by CNG

Clean Cities

Clean Cities – California

City of Los Angeles Clean Cities Coalition

Deployed over 475 alternative fuel heavy- and light-duty vehicles

- DOT operates 57 CNG, 56 propane, and 5 HEV buses, and 26 propane shuttles
- LA World Airports will have 43 LNG transit buses and 116 light-duty AFVs in 1999
- Recreation and Parks operate 23 CNG trucks
- Port of Los Angeles is procuring 17 CNG light- and heavy-duty vehicles
- Quick charge EV infrastructure program established 200 EV charging stations resulting in deployment of over 80 EVs

Clean Cities

Clean Cities – Texas

Paso del Norte Clean Cities Coalition

- Achieved 100% use of alternative fuel vehicles in United States Postal Service El Paso fleet

Dallas/Fort Worth Clean Cities Coalition

- Converted 860 United States Postal Service long-life vehicles to CNG

Clean Cities

Clean Cities – Philadelphia Region

Greater Philadelphia Clean Cities Program

- Lower Merion School District exceeds one million miles on John Deere CNG school bus fleet
  - 45 CNG vehicles
  - Centralized refueling station
- Broad funding support from coalition of DOE, Pennsylvania Department of Environmental Protection, and PECO Energy Company

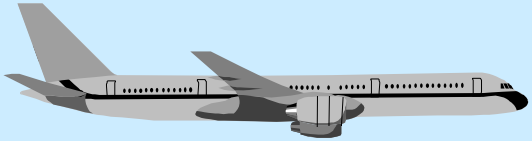
Clean Cities

Clean Cities – Denver Region

Denver Region

- Natural Fuels Corporation installed 19 public CNG stations in the Denver area and 15 more throughout Colorado
- Rocky Mountain National Park is keeping green with 14 propane, 3 CNG, and 2 EV trucks
- Shamrock Foods operates 4 heavy-duty CNG trucks with 14 more on order
- Neighborhood electric vehicle project places 3 EVs powered by renewable wind energy

Clean Cities



Clean Cities – Chicago Region

Clean Cities St. Louis

CNG vehicles support Lambert St. Louis International Airport

- CNG Vehicles are being introduced into general service equipment applications
- Accommodations are underway for CNG refueling of shuttle and aircraft food service vehicles
- The refueling site is accessible to other airfield fleets and can be redirected to accommodate planned expansion of Lambert. Completion in Fall 1999
- State Energy Program funding instrumental to installation of CNG refueling site

Clean Cities

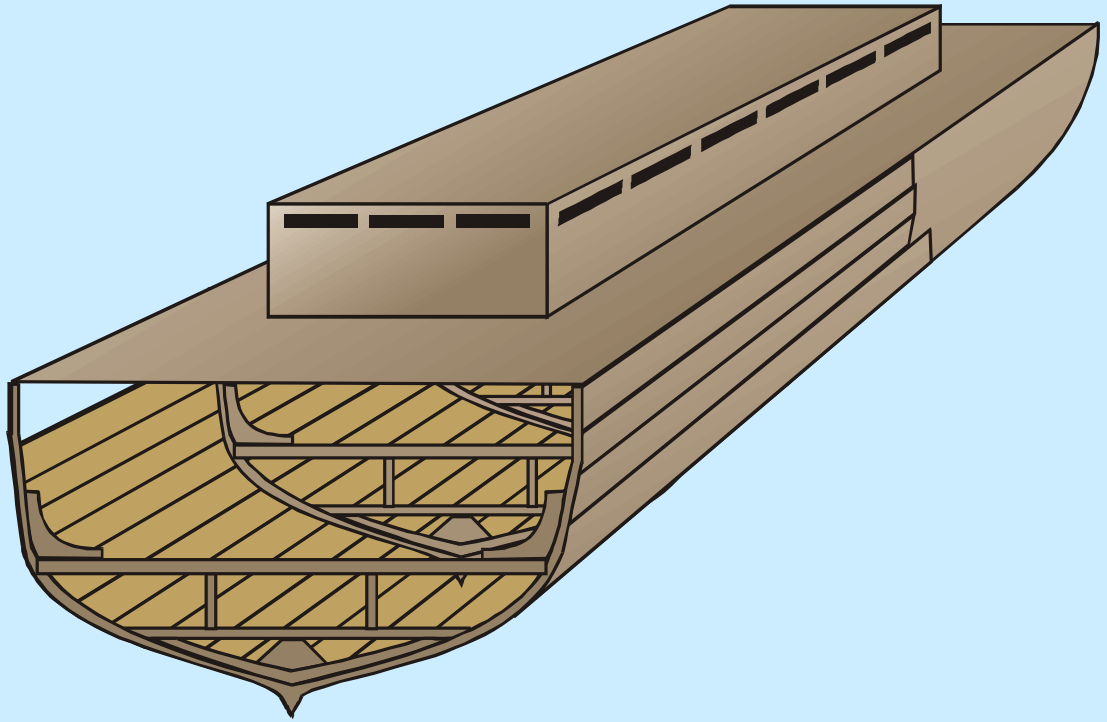
Clean Cities – Boston Region

Capitol Clean Cities of Connecticut

- Yellow Cab Company operates a fleet of 31 dedicated CNG powered taxis
- CNG taxis receive enthusiastic ridership acceptance and demonstrate improved operating costs
- Broad funding support from the Connecticut Department of Transportation, Connecticut Natural Gas, and DOE

Conclusion

- Through partnerships we have laid the keel
  - Clean Cities is demonstrating successes
  - Imperative to keep building to:
    - reduce the nation's dependence on oil
    - reduce transportation emissions



Clean Cities


Clean
Cities